Radio Conference Subcommittee (RCS)

Preparation for ITU Radiocommunication Conferences

UNITED STATES OF AMERICA

DRAFT PRELIMINARY VIEWS ON WRC-11

AGENDA ITEM 1.6: to review No. **5.565** of the Radio Regulations in order to update the spectrum use by the passive services between 275 GHz and 3 000 GHz, in accordance with Resolution **950 (Rev.WRC-07)**, and to consider possible procedures for free-space optical-links, taking into account the results of ITU-R studies, in accordance with Resolution **955 (WRC-07)**†

ISSUE: The purpose of Resolution **950 (Rev. WRC-07)** is to review No. **5.565**, excluding frequency allocations, in order to update spectrum use between 275 and 3 000 GHz by the passive services. Currently, No. **5.565** describes the need for passive observations of spectral line emissions and spectral windows in various bands throughout the 275 – 1 000 GHz range by the radio astronomy service (RAS), the Earth exploration-satellite service (passive) (EESS), and the space research service (passive) (SRS). The footnote also describes the potential for additional spectral line and continuum bands in this range to be identified in the future. Resolution **950 (Rev. WRC-07)** extends its range of consideration to 275 – 3 000 GHz for RAS, EESS (passive), and SRS (passive) use, and invites ITU-R to conduct studies toward modifying No. **5.565**.

BACKGROUND: The current Table of Frequency Allocations establishes allocations at frequencies between 9 kHz and 275 GHz. No allocations presently exist above 275 GHz, although an entry in the Table for the range 275 – 1 000 GHz contains a reference to No. **5.565**:

> **5.565** The frequency band 275-1 000 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:
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> – radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz and 926-945 GHz;
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> – Earth exploration-satellite service (passive) and space research service (passive): 275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363-365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz and 951-956 GHz.
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> Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations

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†This preliminary view only addresses the first part of the agenda item (passive services between 275 – 3 000 GHz), hereafter referred to as Agenda Item 1.6 (Res 950). The second part of the agenda item (free-space optical links), referred to as Agenda Item 1.6 (Res 955), is addressed in a separate document.

are urged to take all practicable steps to protect these passive services from harmful interference until the date when the allocation Table is established in the above-mentioned frequency band. (WRC-2000)

Passive services currently utilize portions of the 275 – 3 000 GHz range for scientific observation of both spectral line and continuum emissions. Resolution **950 (Rev. WRC-07)** resolves to review No. **5.565** to update the spectrum use between 275 and 3 000 GHz by the passive services, but specifically excludes allocations in this range.

U.S. VIEW: The United States supports the modification of No. **5.565** to include all appropriate bands of interest to RAS, EESS (passive), and SRS (passive) in the range 275 – 3 000 GHz based upon studies being conducted in Study Group 7. (August 7, 2008)